

# Immunisation for babies

up to 15 months of age



# Introduction

This guide is for parents with babies up to 15 months of age. It provides information on the routine immunisations that are given to babies to protect them from serious childhood diseases. It also describes these diseases and explains why children need protection against them.

The immunisation programme is regularly reviewed to ensure that children are being offered the most effective protection against preventable diseases. This leaflet includes recent changes to the programme, which are:

- the introduction of a new pneumococcal vaccine at two and four months, with a booster at 15 months;
- changes to the timing of the meningitis C immunisations, to include a booster dose at 12 months;
- the addition of a booster dose of Hib vaccine at 12 months.

These changes have been made because new vaccines have become available, and because research has shown that giving existing vaccines at different times improves protection.



“The two public health interventions that have had the greatest impact on the world’s health are **clean water and vaccines.**”

**World Health Organization**

## What is immunisation?

Immunisation is the best and safest way to help stop your baby becoming sick from various infectious diseases. Babies are given injections called vaccines, which stimulate the body to produce antibodies. Antibodies are the body's natural defence system to fight infectious diseases. Immunisation helps to keep the body ready to fight the infection if the child comes into contact with the disease.

## Why do we need immunisation?

Around the world, over 14 million people die from infectious diseases every year. Most of these diseases have become very rare in Northern Ireland and you may have heard very little about them. They have become rare because we have such high uptake levels for vaccinations and the vaccinations have been very good at getting rid of the diseases. However, they are still common in other parts of the world and, with increased travel to foreign countries, could be brought back to Northern Ireland and affect any children who haven't been vaccinated.

It is important we don't forget how serious these diseases can be. Young babies are most vulnerable to these infections, which is why they need to be protected as early as possible. It takes a number of injections to fully protect your baby, so it's important to complete the course. If your baby misses any of these injections, they can still catch up, even if there's been a long gap. Just ask your GP or health visitor to arrange to give them the dose they missed. They don't have to start the course again from the beginning.

Some diseases are more likely to be serious in older children - so it's important to make sure they are given booster vaccinations.

If you have any questions about immunisation, speak to your GP, practice nurse or health visitor.

You can also visit  
[www.immunisation.nhs.uk](http://www.immunisation.nhs.uk)  
or [www.dhsspsni.gov.uk/immunisation](http://www.dhsspsni.gov.uk/immunisation)



# The vaccines for babies

## DTaP/IPV/Hib vaccine

This vaccine protects against diphtheria (D), tetanus (T), pertussis (P; whooping cough), polio (Inactivated Polio Vaccine - IPV) and *Haemophilus influenzae* type b (Hib). The polio part is now given in the same injection rather than by mouth.

***Your baby should have the DTaP/IPV/Hib vaccine at two, three and four months of age.***

Your child will be given a Hib booster (combined with MenC) at 12 months of age, and a booster against diphtheria, tetanus, pertussis and polio before they start school. They will get a further tetanus, diphtheria and polio booster between the ages of 14 and 18.

## How effective is the DTaP/IPV/Hib vaccine?

Studies have shown that DTaP/IPV/Hib vaccine is very effective in protecting your baby against these five serious diseases. However, the booster doses outlined above are needed to extend this protection as your child grows up.

## What diseases will the DTaP/IPV/Hib vaccine prevent?

### Diphtheria

Diphtheria is a serious disease that can quickly cause breathing problems. It can damage the heart and nervous system and, in severe cases, it can kill. Before the diphtheria vaccine was introduced, there were up to 1,500 cases of diphtheria each year in Northern Ireland.

### Tetanus

Tetanus is a painful disease that affects the muscles and can cause breathing problems. It is caused when germs that are found in soil and manure get into the body through open cuts or burns. Tetanus affects the nervous system and can kill. It cannot be passed from person to person.



## Pertussis (whooping cough)

Whooping cough is a disease that can cause long bouts of coughing and choking that can make it hard to breathe. It can last for up to 10 weeks. It can be very serious for young children and can even kill babies under one year old. Before the pertussis vaccine was introduced, up to 3,500 cases of pertussis were reported each year in Northern Ireland.

## Polio

Polio is a virus that attacks the nervous system and can permanently paralyse the muscles. If it affects the chest muscles or the brain, polio can kill. Before the polio vaccine was introduced, as many as 1,500 cases of paralytic polio occurred each year in Northern Ireland.

## Hib

Hib is an infection that can cause a number of major illnesses like blood poisoning, pneumonia and meningitis. All of these illnesses can kill if they are not treated quickly. The Hib vaccine only protects your baby against one type of meningitis (Hib). It does not protect against any other type of meningitis.

## Side effects of the DTaP/IPV/Hib vaccine

Most babies will not have any side effects, but all babies are different. Your baby may get some of the following side effects, which are usually mild:

- irritability up to 48 hours after having the injection;
- a mild fever (see page 10);
- a small lump at the site of the injection. This could last for a few weeks and will slowly disappear.

If you think your baby has had any other reaction to the DTaP/IPV/Hib vaccine and you are concerned about it, talk to your doctor, practice nurse or health visitor.

Parents and carers can also report suspected side effects of vaccines and medicines through the Yellow Card Scheme. This can be done online by visiting [www.yellowcard.gov.uk](http://www.yellowcard.gov.uk) or by calling the Yellow Card hotline on freephone 0808 100 3352 (available Monday to Friday 10.00am to 2.00pm).



## Allergic reactions

Very rarely, a vaccine may cause an allergic reaction, such as a rash or itching affecting some or all of the body. Even more rarely, children may have a severe reaction within a few minutes of the immunisation, causing difficulty breathing and possibly collapse. This is called anaphylaxis. A recent study has shown that one case of anaphylaxis is reported in about half a million immunisations given. Although allergic reactions can be worrying, treatment leads to a rapid and full recovery.

## Fits

Very rarely, babies may have a fit a day or two after their DTaP/IPV/Hib vaccination. This is usually related to a very high temperature (see page 10). If your baby has a fit, call your GP immediately. Babies usually recover from fits quickly and completely. Young babies can have fits at any time, so having a fit after their vaccination may not necessarily be linked to the vaccine. Your doctor will decide whether your baby can have more doses of the vaccine. If you delay the immunisation, it can increase the chance of your baby having a fit after DTaP/IPV/Hib because fits due to a high temperature are less common in the first six months of life. So it's important to make sure your baby gets vaccinated at the right age.

## Pneumococcal vaccine (PCV)

This vaccine provides protection against one of the most common causes of meningitis, and also against other conditions such as severe ear infections (otitis media) and pneumonia caused by the most common types of pneumococcal bacteria. Meningitis, ear infections and pneumonia can also be caused by other less common types of pneumococcal bacteria and by other bacteria and viruses. This vaccine will not protect against these other infections.

***Your baby should have the PCV immunisation at two, four and 15 months old.***

## What is pneumococcal infection?

Pneumococcal (pronounced new-mo-cock-al) infection is one of the most common causes of meningitis but it also causes severe ear infections (otitis media), pneumonia and some other illnesses.

## Side effects of PCV

Out of every 10 babies immunised, one or two may get swelling, redness or tenderness at the injection site or get a mild fever. Very rarely, a vaccine may cause an allergic reaction (see above).

## MenC vaccine

This vaccine protects against infection by meningococcal group C (MenC), which is a type of bacteria that can cause meningitis and septicaemia (blood poisoning). The MenC vaccine does not protect against meningitis caused by other bacteria or by viruses.

### *Your baby should have the MenC immunisation at three and four months of age.*

Your child will be given a MenC booster (combined with Hib) at 12 months of age.

#### What are meningitis and septicaemia?

Meningitis is an inflammation (swelling) of the lining of the brain. Septicaemia is blood poisoning. The same germs that cause meningitis may cause septicaemia. Babies and young people aged 15 to 17 are most at risk of getting meningitis or septicaemia from meningococcal group C.

#### How effective is the MenC vaccine?

Since the MenC vaccine was introduced, the number of babies under one year of age with group C disease has fallen by around 95%. About 9 out of 10 babies are protected by this vaccine as soon as it is given to them.

Both meningitis and septicaemia are very serious. It is important that you recognise the signs and symptoms and know what to do if you see them (see page 12).



### Side effects of the MenC vaccine

Your baby may have swelling, redness or tenderness where they had the injection. About half of all babies who have the vaccine may become irritable, and around 1 in 20 could get a mild fever. Very rarely, a vaccine may cause an allergic reaction (see page 6).

### Hib/MenC vaccine

Your child will need a dose of the combined Hib/MenC vaccine to boost their protection against *Haemophilus influenzae* type b (Hib) and meningococcal C infections. This booster dose provides longer-term protection throughout childhood against two causes of meningitis and septicaemia.

***Your child should have the booster dose of Hib/MenC vaccine at 12 months old.***

### Side effects of Hib/MenC booster

Your baby may have swelling, redness or tenderness at the injection site. About half of all babies who have the vaccine may become irritable, and about 1 in 20 could get a mild fever. Very rarely, a vaccine may cause an allergic reaction (see page 6).

### MMR vaccine

MMR protects your child against measles (M), mumps (M) and rubella (R; German measles).

***Your baby should have the MMR immunisation at around 15 months of age.***

Your child will receive a booster dose of MMR before they start school.

You will be sent information about MMR and MMR booster shortly before your child is due to get the vaccines. If you would like information before then, look on the websites [www.dhsspsni.gov.uk/immunisation](http://www.dhsspsni.gov.uk/immunisation) or [www.immunisation.nhs.uk](http://www.immunisation.nhs.uk) or don't hesitate to ask your health visitor.



# Common questions about immunisation

## How soon after vaccination can I take my baby swimming?

You can take your baby swimming at any time, both before and after they have their vaccinations. Contrary to popular belief, your baby does not need any immunisations before they go swimming.

## Are there any other ways to immunise my baby?

There is no other proven, effective way to immunise your baby. Homeopathic medicine has been tried as another way to protect against whooping cough, but it doesn't work. The Council of the Faculty of Homeopathy (the registered organisation for doctors qualified in homeopathy) advises parents to have their children immunised with standard vaccines.

## Won't giving my baby several vaccines at the same time overload his/her immune system?

No. From birth, babies' immune systems protect them from the germs that surround them. Without this protection, babies would not be able to cope with the tens of thousands of bacteria and viruses that cover their skin, nose, throat and intestines. This protection carries on through life.

In theory, a baby could respond effectively to around 10,000 vaccines at any one time. So the baby's immune system can and does easily cope with the number of vaccines given in the routine immunisation schedule.



## I have heard there is thiomersal (mercury) in vaccines

Thiomersal is no longer used in vaccines in the routine childhood immunisation programme. A minuscule amount of mercury was used for over 60 years to help preserve vaccines. In all this time, there was never any evidence that it did any harm. However, its use has now been phased out as part of the global goal to reduce exposure to mercury from avoidable sources.

## Are there any reasons why my baby should not be immunised?

There are very few reasons why babies should not be immunised. You should let your health visitor, GP or practice nurse know if your baby:

- has a very high temperature or fever;
- has had a bad reaction to any immunisation;
- has a severe allergy to anything;
- has a bleeding disorder;
- has had convulsions or fits;
- has had treatment for cancer;
- has any illness that affects the immune system (eg leukaemia, HIV or AIDS);
- is taking any medicine that affects the immune system (eg high dose steroids or treatments given after organ transplant or for cancers);
- has any other serious illness.

These don't always mean that your baby can't be immunised, but it helps the doctor or nurse decide which are the best immunisations for your baby and if they need to give you any other advice. A family history of illness is never a reason for a baby not to be immunised.

## What happens if my baby gets a high temperature after immunisation?

Side effects from vaccines are unusual, usually mild and disappear quickly. Some babies may get a raised temperature or fever (over 37.5°C). If your baby's face feels hot to the touch and they look red or flushed, they probably have a fever. You could check their temperature with a thermometer.

Fevers are fairly common in babies and children. They often get these with infections. Occasionally a fever can cause a baby to have a fit. Any fever can cause this, whether the fever is due to an infection or a vaccine. So it's important to know what to do if your baby has a fever. Remember, fevers are more likely to be caused by the diseases than they are by the vaccines.

## How to treat a fever

1. Keep your baby cool by making sure:
  - they don't have too many layers of clothes or blankets on;
  - the room they are in isn't too hot (it shouldn't be cold either, just pleasantly cool).
2. Give them plenty of cool drinks.
3. Give them infant paracetamol or ibuprofen liquid (ask for sugar-free). Read the instructions on the bottle carefully and give your baby the correct dose for their age. You may need to give a second dose four to six hours later.

***Remember, never give medicines containing aspirin to children under 16 years of age.***

### **Call the doctor immediately if your child:**

- has a very high temperature (39°C or above);
- has a fit.

If your child has a fit, lie them on their side in a safe place because their body may twitch or jerk.



# Recognising meningitis and septicaemia

The MenC vaccine, the Hib vaccine and the pneumococcal vaccine protect against three types of meningitis and septicaemia (blood poisoning). There are other types for which there are no vaccines so it is important to still watch out for the signs and symptoms.

Meningitis can cause swelling of the lining of the brain. The same germs may also cause blood poisoning (septicaemia). A baby or child with meningitis or septicaemia can become very ill within hours. If untreated, both diseases may be fatal. Early symptoms of meningitis are mild and similar to those you get with colds and flu, such as a raised temperature (37.5°C and above), fretfulness, vomiting and refusal to eat. However, some of the important signs to look out for are listed below.

**In babies, the main symptoms of meningitis may include:**

- a high-pitched, moaning cry
- being irritable when picked up
- a bulging fontanelle
- being drowsy and less responsive – difficult to wake



- being floppy and listless or stiff with jerky movements
- refusing feeds, vomiting
- skin that is pale, blotchy or turning blue
- fever

and the main symptoms of **septicaemia** may include:

- rapid or unusual patterns of breathing
- skin that is pale, blotchy, or turning blue
- fever with cold hands and feet
- shivering
- vomiting, refusing to feed
- red or purple spots that do not fade under pressure (do the glass test explained below)
- pain or irritability from muscle aches or severe limb or joint pain
- floppiness
- severe sleepiness

*If a glass tumbler is pressed firmly against a septicaemic rash, the rash will not fade. You will be able to see the rash through the glass. If this happens, get a doctor's help immediately.*



In **older children, adolescents and adults**, the main symptoms of **meningitis** may include:

- a stiff neck (check that they can kiss their knees or touch their forehead with their knees)
- a very bad headache (this alone is not a reason to get medical help)
- a dislike of bright lights
- vomiting
- fever
- being drowsy, less responsive or confused
- a rash

and the main symptoms of **septicaemia** may include:

- being sleepy, less responsive, vacant or confused (a late sign in septicaemia)
- severe pains and aches in the arms, legs and joints
- very cold hands and feet
- shivering
- rapid breathing
- red or purple spots that do not fade under pressure (do the glass test explained on page 13)
- vomiting
- fever
- diarrhoea and stomach cramps



It is important to remember that not everyone will develop all the symptoms listed. If an individual develops some of the symptoms listed, especially red or purple spots, get medical help **urgently**. If you can't get in touch with your doctor, or are still worried after getting advice, trust your instincts and take your child to the emergency department of your nearest hospital.

### Where can I get more information?

The Meningitis Research Foundation and the Meningitis Trust both provide information on meningitis.

Phone the Meningitis Research Foundation's free 24-hour helpline on 080 8800 3344 or visit the website at [www.meningitis.org](http://www.meningitis.org)

Phone the Meningitis Trust's free 24-hour helpline on 0800 028 1828 or visit the website at [www.meningitis-trust.org](http://www.meningitis-trust.org)

You can also ask your doctor, practice nurse or health visitor for advice.



# Routine childhood immunisation programme

When to immunise	Diseases vaccine protects against	How it is given
<b>2 months old</b>	Diphtheria, tetanus, pertussis (whooping cough), polio and Hib Pneumococcal infection	One injection  One injection
<b>3 months old</b>	Diphtheria, tetanus, pertussis, polio and Hib Meningitis C	One injection  One injection
<b>4 months old</b>	Diphtheria, tetanus, pertussis, polio and Hib Meningitis C Pneumococcal infection	One injection  One injection  One injection
<b>12 months old</b>	Hib and meningitis C	One injection
<b>15 months old</b>	Measles, mumps and rubella Pneumococcal infection	One injection  One injection
<b>3 to 5 years old</b>	Diphtheria, tetanus, pertussis and polio Measles, mumps and rubella	One injection  One injection
<b>Girls 12 to 13 years old</b>	Cervical cancer caused by human papillomavirus types 16 and 18	Three injections over six months
<b>14 to 18 years old</b>	Tetanus, diphtheria and polio	One injection

If your child has missed out on any of these vaccines, it is never too late to catch up. Arrange an appointment with your GP or health visitor.

If you would like further information about immunisation, visit the DHSSPS website [www.dhsspsni.gov.uk/immunisation](http://www.dhsspsni.gov.uk/immunisation) or the national immunisation website [www.immunisation.nhs.uk](http://www.immunisation.nhs.uk)



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